WHAT IS CLAIMED IS:

1. A chemical-amplification positive-working photoresist composition suitable for the formation of a photoresist layer having a thickness in the range from 100 to 650 nm on the surface of a substrate which comprises, as a uniform solution in an organic solvent:
an organic acid-generating compound capable of generating an acid by the irradiation with actinic rays;
a resinous compound having acid-dissociable groups and capable of being imparted with increased solubility in an aqueous alkaline solution by interaction with an acid; and
a surface active agent in a concentration not exceeding 50 ppm by weight based on the amount of the resinous compound.

2. The chemical-amplification positive-working photoresist composition as claimed in claim 1 in which the resinous compound is a hydroxystyrene-based copolymer comprising monomeric units of hydroxystyrene substituted by acid-dissociable groups for the hydrogen atoms in the hydroxyl groups.

3. The chemical-amplification positive-working photoresist composition as claimed in claim 1 in which the resinous compound is a hydroxystyrene-based copolymer comprising monomeric units of hydroxystyrene, monomeric units of styrene and monomeric units of acrylic or methacrylic acid substituted by acid-dissociable groups for the hydrogen atoms in the carboxyl groups.

4. The chemical-amplification positive-working photoresist composition as claimed in claim 1 in which the acid-dissociable group is selected from the group consisting of tertiary alkyloxycarbonyl groups, tertiary alkyloxycarbonylalkyl groups, tertiary alkyl groups, cyclic ether groups, alkoxyalkyl groups, 1-alkyl monocycloalkyl groups and 2-alkyl polycycloalkyl groups.

5. The chemical-amplification positive-working photoresist composition as claimed in claim 4 in which the acid-dissociable group is selected from the group consisting of *tert*-butyloxycarbonyl group, *tert*-butyloxycarbonylmethyl group, *tert*-butyl group, tetrahydropyranyl group, tetrahydrofuranyl group, 1-ethoxyethyl group, 1-methoxypropyl group, 1-methylcyclohexyl group, 1-ethylcyclohexyl group, 2-methyladamantyl group and 2-ethyladamantyl group.

6. The chemical-amplification positive-working photoresist composition as claimed in claim 2 in which the resinous compound comprises the monomeric units of hydroxystyrene substituted for the hydrogen atoms in the hydroxyl groups by acid-dissociable groups selected from the group consisting of *tert*-butyloxycarbonyl group, *tert*-butyloxycarbonylmethyl group, *tert*-butyl group, tetrahydropyranyl group, tetrahydrofuranyl group, 1-ethoxyethyl group and 1-methoxypropyl group in a molar fraction of 10 to 60%.

7. The chemical-amplification positive-working photoresist composition as claimed in claim 2 in which the resinous compound is a combination of (b1) a first polyhydroxystyrene-based copolymer having a weight-average molecular weight of 2000 to 30000 with a molecular weight dispersion of 1 to 6.0 and comprising from 10 to 60% by moles of monomeric units of *tert*-butyloxycarbonyloxystyrene and (b2) a second polyhydroxystyrene-based copolymer having a weight-average molecular weight of 2000 to 30000 with a molecular weight dispersion of 1 to 6.0 and comprising from 10 to 60% by moles of monomeric units of alkoxyalkyloxystyrene in a (b1):(b2) weight proportion in the range from 10:90 to 90:10.

8. The chemical-amplification positive-working photoresist composition as claimed in claim 2 in which the resinous compound is a combination of (b3) a third polyhydroxystyrene-based copolymer having a weight-average molecular weight of 2000 to 30000 with a molecular weight dispersion of 1 to 6.0

and comprising from 10 to 60% by moles of monomeric units of tetrahydropyranyloxystyrene and (b2) a second polyhydroxystyrene-based copolymer having a weight-average molecular weight of 2000 to 30000 with a molecular weight dispersion of 1 to 6.0 and comprising from 10 to 60% by moles of monomeric units of alkoxyalkyloxystyrene in a (b3):(b2) weight proportion in the range from 10:90 to 90:10.

9. The chemical-amplification positive-working photoresist composition as claimed in claim 2 in which the resinous compound is a combination of (b4) a fourth polyhydroxystyrene-based copolymer having a weight-average molecular weight of 2000 to 30000 with a molecular weight dispersion of 1 to 6.0 and comprising from 10 to 60% by moles of monomeric units of *tert*-butoxystyrene and (b2) a second polyhydroxystyrene-based copolymer having a weight-average molecular weight of 2000 to 30000 with a molecular weight dispersion of 1 to 6.0 and comprising from 10 to 60% by moles of monomeric units of alkoxyalkyloxystyrene in a (b4):(b2) weight proportion in the range from 10:90 to 90:10.

10. The chemical-amplification positive-working photoresist composition as claimed in claim 1 in which the organic acid-generating compound is capable of generating an acid by the irradiation with KrF excimer laser beams.

11. The chemical-amplification positive-working photoresist composition as claimed in claim 1 in which the resinous compound is a resin without aromaticity having a polycyclic hydrocarbon group in the main chain structure or in the pendant group.

12. The chemical-amplification positive-working photoresist composition as claimed in claim 1 in which the organic acid-generating compound is capable of generating an acid by the irradiation with ArF excimer laser beams.

13. The chemical-amplification positive-working photoresist composition as claimed in claim 1 which further comprises from 0.01 to 1 part by weight of a tertiary aliphatic amine compound per 100 parts by weight of the resinous compound.

14. The chemical-amplification positive-working photoresist composition as claimed in claim 1 which further comprises from 0.01 to 1 part by weight of a carboxylic acid compound per 100 parts by weight of the resinous compound.

15. A photosensitive material for photolithographic patterning which comprises, as an integral layered body:
(a) a substrate; and
(b) a photoresist layer having a thickness in the range from 100 to 650 nm formed on the surface of the substrate from the chemical-amplification positive-working photoresist composition defined in claim 1.

16. The photosensitive material as claimed in claim 15 in which an antireflection coating film having a thickness in the range from 10 to 160 nm intervenes between the substrate surface and the photosensitive layer.

17. The photosensitive material as claimed in claim 15 in which the photoresist layer has a thickness in the range from 300 to 570 nm.